

What are the factors that can SPEED UP or SLOW DOWN a Chemical Reaction
With a little bit of chemistry review on the side ☺

Activity A

1. Magnesium is a(n): compound element mixture ion
- 2.

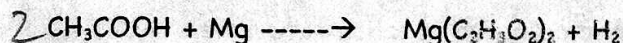
Test Tube	Observations	Rxn Time
A 20 ML VINEGAR	LOTS OF BUBBLING FAST RXN	1
B 10 ML VINEGAR	SOME BUBBLING - NOT AS FAST	2
C 5 ML VINEGAR	EVEN LESS BUBBLING - SLOW RXN	3

← RANKED
1 FASTEST
3 SLOWEST

3. Does changing the concentration of the solvent have an impact on the reaction rate? If so, describe the relationship between the concentration and the resulting reaction rate time.

YES, AS CONCENTRATION ↑, RXN RATE ↑, RXN TIME ↓

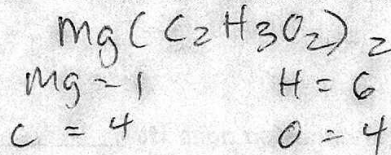
4. Following is the equation for the reaction you just observed:



- a. This would be classified as a SINGLE REPLACEMENT reaction

- b. Balance the equation. ✓

- c. Count the number of each type of atom for the balanced version of magnesium acetate.



Activity B

5.

Test Tube	Observations
A with MnO_2	TONS OF BUBBLES
B without MnO_2	BARELY ANY BUBBLES

6. Describe the relationship between addition of a catalyst and the resulting reaction rate time.

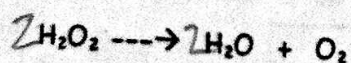
ADDITION OF A CATALYST ↓ RXN TIME
(↑ RXN RATE)

7. Would the materials in test tube A be considered a solution, suspension, or a colloid? Explain your reasoning.

SUSPENSION

What are the factors that can SPEED UP or SLOW DOWN a Chemical Reaction
With a little bit of chemistry review on the side ☺

8. The manganese dioxide did not actually react with the hydrogen peroxide; it simply acted as a catalyst for the decomposition of hydrogen peroxide. The chemical equation for this reaction is:



- a. This would be classified as a DECOMPOSITION reaction
b. Balance the equation ✓
c. Hydrogen peroxide is a(n) ionic or covalent substance. (Circle the correct answer)
Explain how you know this.

IF IT WAS IONIC A METAL WOULD BE PRESENT
IT'S COVALENT BECAUSE IT IS NON-METALS ONLY

Activity C

Beaker	Observations	Rxn Time
Hot Water	STEAM, BUBBLES FAST RXN	1
Cold Water	BUBBLES (LESS) SLOW RXN	2

RANK
1 FASTEST
2 SLOWEST

10. Describe the relationship between temperature and the resulting reaction rate time.

↑ TEMP ↑ RXN RATE ↓ RXN TIME

11. Why does changing the temperature of the water affect the rate of the reaction?

↑ TEMP ↑ KE ↑ COLLISIONS

12. As the temperature of the water changes so does its KINETIC energy.

Activity D

13.

Beaker	Observations	Rxn Time
Full tablet	SLOW RXN, LESS BUBBLES	2
Crushed tablets	FAST RXN, LOTS OF BUBBLES	1

RANK
1 FAST
2 SLOW

14. Describe the relationship between surface area and the resulting reaction rate time.

↑ SA, ↑ RXN RATE, ↓ RXN TIME

15. Why does changing the surface area of the substance affect the rate of the reaction.

MORE PLACES ARE AVAILABLE FOR REACTIONS TO TAKE PLACE

16. Is the decomposition of Alka Seltzer and endothermic or exothermic reaction? Explain your reasoning.